

Applicant : Jian Bai, Steven M. Fischer and J. Michael Flanagan
Appl. No. : 10/806,685
Examiner : Paul M. Gurzo.
Docket No. : 10980322-8 (12089.4007)

IN THE CLAIMS:

Please amend claims 34, 35, 38-41, and 44-48 as follows:

1-33. (Cancelled)

34. (Currently Amended) A method to conduct a mass analysis of a biomolecule comprising:

introducing a matrix containing biomolecule analyte into an ionization source maintained at an ambient pressure greater than 100 mTorr,

ionizing the biomolecule analyte with pulsed laser energy to desorb the analyte and produce ions of the biomolecule analyte,

~~directing the transporting of biomolecule analyte~~ the ions ~~into~~ toward a passageway, wherein the ~~biomolecule analyte~~ ions undergo cooling during transport.

35. (Currently Amended) The method of claim ~~34~~20 comprising transporting the ~~ions biomolecule analyte~~ from the ionization source to a mass analyzer operating at a pressure less than about 10^{-5} Torr.

36. (Previously Presented) The method of claim 34 wherein the biomolecule analyte and the matrix are contained in a flowing liquid sample.

37. (Previously Presented) The method of claim 34 wherein the biomolecule analyte and the matrix are contained in a static liquid sample.

38. (Currently Amended) The method of claim 35 wherein the flowing liquid sample is ~~the~~ effluent from an HPLC, CE, or syringe pump.

39. (Currently Amended) The method of claim 34 wherein the biomolecule analyte is selected from the group consisting of DNA, RNA, lipid, peptide, protein, carbohydrate, ~~and fragments thereof~~, and combinations thereof.

40. (Currently Amended) The method of claim ~~39~~7 wherein the protein is digested.

41. (Currently Amended) The method of claim 34 wherein the matrix or biomolecule analyte is in a microtitre plate, on a microchip array, on a thin layer chromatography plate, ~~in an~~ electrophoresis gel, or on a membrane.

42. (Previously Presented) The method of claim 34 wherein the biomolecule analyte is introduced into the ionization source at a pressure selected from the group

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consisting of between 100 mTorr and 1 Torr, between 1 Torr and 760 Torr and between 100 mTorr and 760 Torr.

43. (Previously Presented) The method of claim 34 wherein the ionization source is maintained at a temperature between 30° C and 100° C.

44. (Currently Amended) The method of claim 34 further comprising the step of transporting the ~~biomolecule-analyte~~ ions through ~~thea~~ passageway, wherein the passageway is integrally connected to the ambient pressure of the ionization source and a vacuum of a mass analyzer.

45. (Currently Amended) The method of claim ~~44~~ wherein the step of transporting the ~~biomolecule-analyte~~ ions is comprised of passing the ions through an ion transport guide.

46. (Currently Amended) The method of claim ~~45~~ wherein passing the ions through an ion transport guide includes passing the ions through ~~an~~ ion optics selected from the group consisting of a multipole ion guide, an orifice, a capillary, a skimmer, and a lens and combinations thereof.

47. (Currently Amended) The method of claim ~~34~~ further comprising the step of performing a mass analysis of the ions.

48. (Currently Amended) The method of claim ~~47~~ wherein the step of performing a mass analysis is achieved with a mass analyzer selected from the group consisting of ion trap, quadrupole, ion cyclotron resonance, Fourier transform ion cyclotron resonance, magnetic sector, electric sector, and quadrupole time-of-flight analyzers and combinations thereof.

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Should the Examiner have any questions or comments, he is invited to call the representative of Applicant at 949/567-6700.

The Commissioner is authorized to charge any fee which may be required in connection with this Amendment to deposit account No. 50-1078.

Respectfully submitted,

ORRICK, HERRINGTON & SUTCLIFFE LLP

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By: 

Kurt T. Mulville
Reg. No. 37,194

Orrick, Herrington & Sutcliffe LLP
4 Park Plaza, Suite 1600
Irvine, CA 92614-2558
Tel. 949-567-6700
Fax: 949-567-6710